NC/QC/W-13/2018-19/AM -BBM1 Date: 05-11-2018

1. TEST REPORT ON BITUMEN SAMPLE:

Sub: Testing of Bitumen sample VG-30 Grade used in Bituminous Macadam.
{Project*: Improvements of Asphalting in Mallasandra Ward No 13 Shettyhalli Sub Division}
Ref.: Material testing/W-13/QC/18-19,
Report Required for: Assistant Executive Engineer,
Shettyhalli Sub division,
BBMP, Bangalore.
Name of the Agency/Contractor*: M/s Technical Manager, KRIDL.
Technical Reference: Ministry of Road Transport and Highways, V Revision, 2013 and IS 73: 1992.

TABLE 1.1 ;

SL No	Details	Test Results	Requirements as per I.S 73 –1992 Specifications
1.	Penetration at 25^0 C	**53.90^0 C**	Min. 45
2.	Ductility Value at 25^0 C	**116 cm**	40
3.	Flash point	**232^0 C**	Minimum 220^0 C
4.	Softening point	**51.45^0 C**	Min. 47

ಸಹಾಯಕ ಕಾರ್ಯನಿರ್ವಾಹಕ ಅಭಿಯಂತರರು
ಶೆಟ್ಟಿಹಳ್ಳಿ ಉಪವಿಭಾಗ, ದಾಸರಹಳ್ಳಿ ವಲಯ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ
ಯಶವಂತಪುರ, ಬೆಂಗಳೂರು

Page No. 1/1,

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NC/QC/W-13/2018-19/AM -CBM1 Date: 05-11-2018

1. TEST REPORT ON COARSE AGGREGATE:

Sub: Testing of Coarse Aggregate used in Bituminous Macadam.
{Project*: Improvements of Asphalting in Mallasandra Ward No 13 Shettyhalli Sub Division}
Ref.: Material testing/W-13/QC/18-19,
Report Required for: Assistant Executive Engineer,
Shettyhalli Sub division,
BBMP, Bangalore.
Name of the Agency/Contractor*: M/s Technical Manager, KRIDL.

TABLE 1.1 ;

SL No	Test conducted	Test Results	Tests Conforms to IS 2386(Part I to IV)– 1963 (Reaffirmed on 2002) & Requirements as per IS:383-1970 & M.o.R.T.H Specification, V Revision -2013.
1.	Aggregate Impact Value	28.06%	Not more than 30.00 % for BM
2.	Combined Flakiness and Elongation index, %	26.48%	Not more than 35.0 %
3.	Water absorption, %	0.37%	Not more than 2.0 %
4.	Specific gravity	2.61	-------
5.	Soundness	5.74s %	Max. 12 % in Sodium Sulphate

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಶೆಟ್ಟಿಹಳ್ಳಿ ಉಪವಿಭಾಗ, ಬಾಪೂಜಿನಗರ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ
ಎಸ್.ಎಂ. ರಸ್ತೆ, ಪದ್ಮನಾಭನಗರ, ಬೆಂಗಳೂರು

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NC/QC/W-13/2018-19/AM -BM1 Date: 12-11-2018

TEST REPORT ON BITUMINOUS MIXES
(BITUMEN EXTRACTION TEST & GRADATION TEST)

Sub: To determine the percentage of bitumen and gradation for BM Mix Sample.
{Project*: Improvements of Asphalting in Mallasandra Ward No 13 Shettyhalli Sub Division}
Ref.: Material testing/W-13/QC/18-19,
Report Required for: Assistant Executive Engineer,
Shettyhalli Sub division,
BBMP, Bangalore.
Name of the Agency/Contractor*: M/s Technical Manager, KRIDL.

1. Type of Construction: **Bituminous Macadam**.

TEST RESULTS:

1. The bitumen content obtained after subjecting the sample for Bitumen Extraction test = **3.42%**

2.**Gradation Test**

IS Sieve Designation, mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Desired gradation for 50-75mm thick ,as per Table 500-7 of M.o.R.T.H Specifications-V Revision-2013
26.5	**100.00**	100
19	**95.85**	90-100
13.2	**83.15**	56-88
4.75	**32.45**	16-36
2.36	**17.05**	4-19
0.300	**9.10**	2-10
0.075	**4.30**	0-8

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NC/QC/W-13/2018-19/AM-BM2

Date: 13-11-2018

TEST REPORT ON BITUMINOUS MIXES
(BITUMEN EXTRACTION TEST & GRADATION TEST)

Sub: To determine the percentage of bitumen and gradation for BM Mix Sample.
{Project*: Improvements of Asphalting in Mallasandra Ward No 13 Shettyhalli Sub Division}

Ref.: Material testing/W-13/QC/18-19,

Report Required for: Assistant Executive Engineer,
Shettyhalli Sub division,
BBMP, Bangalore.

Name of the Agency/Contractor*: M/s Technical Manager, KRIDL.

1. Type of Construction: **Bituminous Macadam**.

TEST RESULTS:

1. The bitumen content obtained after subjecting the sample for Bitumen Extraction test = **3.44%**

2.**Gradation Test**

IS Sieve Designation, mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Desired gradation for 50-75mm thick ,as per Table 500-7 of M.o.R.T.H Specifications-V Revision-2013
26.5	100.00	100
19	97.45	90-100
13.2	73.15	56-88
4.75	32.55	16-36
2.36	18.40	4-19
0.300	8.30	2-10
0.075	6.80	0-8

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Page No. 1/1

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NC/QC/W-13/2018-19/AM -BM3 Date: 14-11-2018

TEST REPORT ON BITUMINOUS MIXES
(BITUMEN EXTRACTION TEST & GRADATION TEST)

Sub: To determine the percentage of bitumen and gradation for BM Mix Sample.
{Project*: Improvements of Asphalting in Mallasandra Ward No 13 Shettyhalli Sub Division}
Ref.: Material testing/W-13/QC/18-19,
Report Required for: Assistant Executive Engineer,
Shettyhalli Sub division,
BBMP, Bangalore.
Name of the Agency/Contractor*: M/s Technical Manager, KRIDL.

1. Type of Construction: **Bituminous Macadam**.

TEST RESULTS:

1. The bitumen content obtained after subjecting the sample for Bitumen Extraction test = **3.45%**

2.**Gradation Test**

IS Sieve Designation, mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Desired gradation for 50-75mm thick ,as per Table 500-7 of M.o.R.T.H Specifications-V Revision-2013
26.5	100.00	100
19	98.40	90-100
13.2	87.15	56-88
4.75	34.45	16-36
2.36	18.60	4-19
0.300	7.55	2-10
0.075	3.75	0-8

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NC/QC/W-13/2018-19/AM –BM4 Date: 15-11-2018

TEST REPORT ON BITUMINOUS MIXES
(BITUMEN EXTRACTION TEST & GRADATION TEST)

Sub: To determine the percentage of bitumen and gradation for BM Mix Sample.
{Project*: Improvements of Asphalting in Mallasandra Ward No 13 Shettyhalli Sub Division}
Ref.: Material testing/W-13/QC/18-19,
Report Required for: Assistant Executive Engineer,
Shettyhalli Sub division,
BBMP, Bangalore.
Name of the Agency/Contractor*: M/s Technical Manager, KRIDL.

1. Type of Construction: **Bituminous Macadam**.

TEST RESULTS:

1. The bitumen content obtained after subjecting the sample for Bitumen Extraction test = **3.43%**

2.**Gradation Test**

IS Sieve Designation, mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Desired gradation for 50-75mm thick ,as per Table 500-7 of M.o.R.T.H Specifications-V Revision-2013
26.5	100.00	100
19	96.75	90-100
13.2	84.15	56-88
4.75	32.60	16-36
2.36	16.45	4-19
0.300	7.10	2-10
0.075	4.90	0-8

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Page No. 1/1

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NC/QC/W-13/2018-19/AM -BB1 Date: 12-11-2018

1. TEST REPORT ON BITUMEN SAMPLE:

Sub: Testing of Bitumen sample VG-30 Grade used in Bituminous Concrete.
{Project*: Improvements of Asphalting in Mallasandra Ward No 13 Shettyhalli Sub Division}
Ref.: Material testing/W-13/QC/18-19,
Report Required for: Assistant Executive Engineer,
Shettyhalli Sub division,
BBMP, Bangalore.
Name of the Agency/Contractor*: M/s Technical Manager, KRIDL.
Technical Reference: Ministry of Road Transport and Highways, V Revision, 2013 and IS 73: 1992.

TABLE 1.1 ;

SL No	Details	Test Results	Requirements as per I.S 73 –1992 Specifications
1.	Penetration at 25^0 C	**52.15^0 C**	Min. 45
2.	Ductility Value at 25^0 C	**118 cm**	40
3.	Flash point	**243^0 C**	Minimum 220^0 C
4.	Softening point	**50.7s5^0 C**	Min. 47

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಇಂಜಿನಿಯರ್ ಅವರ ಕಛೇರಿ ಶೆಟ್ಟಿಹಳ್ಳಿ ಉಪವಿಭಾಗ, ದಾಸನಪುರ ಹೋಬಳಿ ಬೆಂಗಳೂರು ಪೂರ್ವ ತಾಲ್ಲೂಕು ಬಿಬಿಎಂಪಿ, ರಮೇಂದ್ರನಗರ, ಬೆಂಗಳೂರು

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NC/QC/W-13/2018-19/AM -CB1 Date: 12-11-2018

1. TEST REPORT ON COARSE AGGREGATE:

Sub: Testing of Coarse Aggregate used in Bituminous Concrete.
{Project*: Improvements of Asphalting in Mallasandra Ward No 13 Shettyhalli Sub Division}
Ref.: Material testing/W-13/QC/18-19,
Report Required for: Assistant Executive Engineer,
Shettyhalli Sub division,
BBMP, Bangalore.
Name of the Agency/Contractor*: M/s Technical Manager, KRIDL.

TABLE 1.1 ;

SL No	Test conducted	Test Results	Tests Conforms to IS 2386(Part I to IV)– 1963 (Reaffirmed on 2002) & Requirements as per IS:383-1970 & M.o.R.T.H Specification, V Revision -2013.
1.	Aggregate Impact Value	23.32 %	Not more than 24.00 %
2.	Combined Flakiness and Elongation index, %	26.85 %	Not more than 35.0 %
3.	Water absorption, %	0.38 %	Not more than 2.0 %
4.	Specific gravity	2.61	-------
5.	Soundness	6.98s %	Max. 12 % in Sodium Sulphate

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